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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,314

04/18/2006

Erwin Rinaldo Meinders

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

STONE, ROBERT M

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,314	<b>Applicant(s)</b> MEINDERS ET AL.	
	<b>Examiner</b> Robert M. Stone	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 August 2009 has been entered.

### ***Response to Amendment***

2. The amendment filed on 22 July 2009 has been entered and considered by the examiner.

### ***Claim Objections***

3. Claims 1-8 and 11-12 are objected to because of the following informalities:

a. Minor grammatical errors in Independent claims 1, 11, and 12 in the recitation "a material having optical properties depend on a potential difference".

Examiner suggests "a material having optical properties which depend on a potential difference" or "a material having optical properties that depend on a potential difference".

b. Independent claim 2 recites "a material which optical properties depend on a potential difference". Examiner suggests "a material having optical properties which depend on a potential difference" or "a material having optical properties that depend on a potential difference".

c. Claims 3-8 depend upon parent claims objected to above.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically:

a. Newly amended Independent claims 1, 2, 9, 11, and 12 recite the limitation "in order to **permanently** record an image". The usage of the term "permanently" is unclear in the context of a display without clarification. Does the recorded image never change once written even upon the removal of the display power source? The only apparent mention of this limitation in the specification resides on page 12, lines 25-32, which states a "permanent image might be recorded"; however, this paragraph further states that "the optical properties of its material cannot be changed by applying a potential difference" which contradicts the claim recitation "having optical properties depend on a potential difference, V1, applied between two electrodes". For examination purposes, the Examiner is interpreting "permanently" to mean unchanging over a period of time which is consistent with the Random House Dictionary definition of "long-lasting or nonfading" as well as what the Examiner believes was intended.

- b. Claims 3-8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon the Independent claims mentioned above.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kimura* (US 7,116,309) in view of *Tukude* (US 4,702,566), *Chapman* (US 4,008,950), and *Demiryont* (US 4,940,315).

As to **claim 9**, *Kimura* (Figs. 5 - 8) discloses a method for recording an image in a display (Col. 2 lines 25 – 35) said method comprising a step of locally altering said at least one image sub-stack in order to record an image (Figs. 5 & 6 shows sub-stack can be alter to record image) (Col. 6 lines 38-56), wherein said locally altering comprises patterning a material within said sub- stack (Figs. 5 & 6 shows sub-stack can be alter to record image by patterning the layers or material) (Col. 6 lines 38-56).

*Kimura* does not expressly disclose holes corresponding to depth within the material or the relation of the hole and the color.

*Tukude* (Fig. 5) discloses holes corresponding to the thickness or depth of the electrode material (Col. 3 lines 49-58).

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have provided the holes as taught by *Tukude* in the electrochromic display of *Kimura*. The suggestion/motivation would have been to improve effective display area and the response speed of the display (Col. 2 lines 1-5).

*Kimura* in view of *Tukude* does not expressly disclose the relationship between the hole and the intensity of light/color.

*Chapman* discloses that cavity/hole depth in materials affect the color of the region and in order to make color even in the area of the cavity region, the cavity has to be in a certain depth (Col. 2 lines 23 – 27). Thus, if the depth of the cavity is less than the required depth the color of the region will not be even or reduced. It is clear that the known depth of the holes (i.e. cavity) in *Chapman* is related to a reduction of an intensity of light (i.e. color generated from the light) compared to the intensity of light of the material surrounding a corresponding hole (i.e. the depth of the color depends on the depths of the cavity).

At the time of invention, it would have been obvious for a person of ordinary skill in the art that holes corresponding to the depth in the display material are related to color evenness as taught by *Chapman* and applied to the electrochromic display of *Kimura* as modified by *Tukude*. The

suggestion/motivation would have been to promote thinner display materials and enhance the appearance of the display (Col. 2 lines 35-38).

*Kimura* in view of *Tukude* and *Chapman* does not expressly disclose wherein the recorded image is permanent.

*Demiryont* discloses patterning an electrochromic display [col. 2, lines 49-52; col. 3, lines 20-22] such that the image recorded to the electrochromic material is persistent and remains visible for a length of time even upon removal of writing charge [col. 1, lines 45-62].

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have provided a persistent image as taught by *Demiryont* in the electrochromic display of *Kimura* as modified by *Tukude* and *Chapman*. The suggestion/motivation would have been to reduce power consumption by reducing the required drive time to maintain an image that does not need to change constantly (such as still images) thus increasing efficiency.

As to **claim 1**, it differs from claim 9 (see rejection for claim 9 above) in the additional recitation of "a potential difference (v1)" and "sub-stack comprising a material having optical properties".

*Kimura* (Figs. 1, 6, 8, 21) further discloses a display (77) for displaying pre-recorded images (Col. 2 lines 25-35), said display comprising at least one image stack (Fig. 6 or 3) comprising at least one image sub-stack (13, 15, 17, or 19) (Col. 6 lines 8-35), said image sub-stack comprising a material having optical properties (reflecting & transparent) (Col. 5 line 61 – Col. 6 line 15) depend on a

potential difference (V or V1 or V2 or V3) applied between two electrodes (13, or 15) (Col. 2 lines 25-35), wherein said image sub-stack can be locally altered in order to record an image by patterning said material, (Figs. 5 & 6 shows sub-stack can be alter to record image by patterning the layers or material) (Col. 6 lines 38-56).

As to **claim 2**, it differs from claim 1 (see rejection for claim 1 above) in the removal of “, V1,” and the additional recitation of "which can be displayed by applying said potential difference between said two electrodes" regarding the permanently recorded image.

*Demiryont* further discloses writing a persistent image to an electrochromic display by applying a potential difference between two electrode layers, 16 and 18 [col. 1, lines 16-62].

As to **claim 11**, it differs from claim 2 (see rejection for claim 2 above) in the additional recitation of “a cartridge”, “means for receiving said display”, “means for receiving a signal”, and “means for applying”.

*Kimura* (Figs. 1, 3, 6, 8, and 21) further discloses a cartridge (81) for recording an image in a display (77) said cartridge comprising:

means for receiving said display (image stack means for receiving said display), said display comprising at least one image stack comprising at least one image sub-stack (13, 15, 17, or 19) (Col. 6 lines 8-35),  
means for receiving a signal comprising information about a selected image sub-stack (Col. 6 line 16- 20 or Col. 14 Line 21 - 48);



and

means for applying a potential difference between the two electrodes of said selected image sub-stack (Col. 2 line 6 – 36 or Col. 6 line 8 - 35).

As to **claim 12**, it differs from claim 11 (see rejection for claim 11 above) in the additional recitation of “means for selecting an image sub-stack”.

*Kimura* (Figs. 1, 3, 6, 8, and 21) further discloses means for selecting an image sub-stack (Col. 6 line 16- 20 or Col. 14 Line 21 - 48).

As to **claim 3**, *Kimura* (Figs. 3-6) further discloses wherein said material is an electrochromic material (Col. 2 line 5-25).

As to **claim 4**, *Kimura* (Figs. 3-6 & 10-13) further discloses wherein said electrochromic material has an ability to take up or release electrons, which can be locally reduced by means of an optical beam (Col. 6 lines 5 - 35) (“supply or receipt of electrons is performed in only the region of the EC layer 17 corresponding to the foregoing region of the photoconductor layer 15” which is proportionally affected by writing light)

As to **claim 5**, *Kimura* (Fig. 17) further discloses a color filter. (Col. 17 line 5 – 25) (“structure incorporating color filters.”)

As to **claim 7**, *Kimura* (Fig. 3-6) further discloses wherein said at least one image stack comprises at least two image sub-stacks (photoconductor layer 15, and EC layer 17) comprising materials having different optical properties (Col. 6

lines 25-35 and lines 46-56). Further, Kimura discloses reflective optical properties for reflecting film 9 and transparent optical properties for layer 13.

As to **claim 8**, *Kimura* (Figs. 3-6) further discloses said display comprising at least two image stacks (15, 17, 13, and 19) (Col. 6 lines 36-56).

As to **claim 10**, *Kimura* (Figs. 5 - 8) further discloses wherein said altering step (Figs. 5 and 6 shows altering steps for the material) (Col. 6 lines 38-56) comprises a sub-step of focusing an optical beam on the at least one image sub-stack (Figs. 8-13 Shows a sub-step where writing light is focused on one of the image sub-stack) (Col. 6 line 5 -15 and Col. 9 lines 46-67).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kimura* (US 7,116,309) in view of *Tukude* (US 4,702,566), *Chapman* (US 4,008,950), *Demiryont* (US 4,940,315), and *Yamazaki* (US 2001/0040655).

As to **claim 6**, *Kimura* in view of *Tukude*, *Chapman*, and *Demiryont* does not expressly disclose the color filter comprising different color pixels. However, *Kimura* [col. 17, lines 5-25] and *Demiryont* [col. 1, lines 61-62] disclose the use of electrochromic material color filters.

*Yamazaki* discloses color filter comprising different color pixels [0150].

At the time of invention, it would have been obvious for a person of ordinary skill in the art to have formed the color filter of different color pixels as taught by *Yamazaki* in the electrochromic display of *Kimura* as modified by *Tukude*, *Chapman*, and *Demiryont*. The suggestion/motivation would have been

to improve the aesthetic appeal of the display as well as increasing color reproduction accuracy by providing contrast.

### ***Response to Arguments***

9. Applicant's arguments with respect to amended independent claims 1, 2, 9, 11, and 12 and claims dependent thereon have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. *Smythe* (US 2006/0028721) discloses an electrochromic display with permanent border regions around the edges.
- b. *Noguchi* (US 2004/0222946) discloses a multi-stacked image display device with persistent/static images that do not change.
- c. *Sullivan* (US 6,100,862), *Seymour* (US 2004/0239582), *Biferno* (US 4,562,433), and *Sadovnik* (US 5,764,317) teach image display stacks with each panel in the stack is a filter of color pixels individually controlled to display static or moving images according to a focusing optical beam on the sub-stack panel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Stone whose telephone number is (571)270-

Art Unit: 2629

5310. The examiner can normally be reached on Monday-Friday 9 A.M. - 4:30 P.M.

E.S.T. (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571)272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert M Stone/  
Examiner, Art Unit 2629

/Chanh Nguyen/  
Supervisory Patent Examiner, Art  
Unit 2629